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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/808,501 | 03/14/2001 | John Anthony Beaven | GB920000055US1 | 3614 |

7590 10/06/2006
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EXAMINER

KANG, INSUN

ART UNIT PAPER NUMBER

2193

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 09/808,501 | Applicant(s) BEAVEN ET AL | |
| | Examiner Insun Kang | Art Unit 2193 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 7/10/2006.
2. Claims 1-49 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14, 17-30, 33-46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bachmann et al. ("Technical Concepts of Component-Based Software Engineering," 5/2000) hereinafter referred to as "Bachmann" in view of Colby et al. (US patent 6,006,264) hereafter Colby.

Per claim 1:

Bachmann discloses:

- a component specification element (i.e. "These design rules take the form of a component model, or a set of standards and conventions to which components must conform," pg 10 last paragraph; pg 20 last paragraph);
- a control flow specification element (i.e. "interaction contracts," pg 21 paragraphs 2-3; pg 12 5.21. Specifying Behavior)
- a data flow specification element (i.e. see 5.2.3 Specifying Quality of Service in pg 13);

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-a resource specification element (i.e. "resource management," pg 24 paragraphs 3-4; pg 29 paragraph 3-4);

-a quality of service specification derivation element (i.e. see 5.2.3 Specifying Quality of Service in pg 13) having for output an application model in combination with a quality of service specification derived from relations between components, control flows, data flows and resources(i.e. "The specification of quality attributes...reusability, maintainability...and usability," pg 13 paragraph 5; "This interface specification describes a number of functional properties of a component that provides a directory service...the names, signatures of two operations of the directory service...a set of rules that map sequences of input events to sequences of output events," pg 18 paragraph 3)
-wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment (i.e. "These contractual obligations ensure that independently developed components obey certain rules so that components interact...in predictable ways, and can be deployed into standard build-time and run-time environments," pg 3 last paragraph).

Bachmann does not explicitly teach the Qos specification is derived by implication. However, Colby teaches that such implicit derivation was known in the pertinent art, at the time applicant's invention was made, to derive the Qos requirements implicitly from the relationships of the individual components (i.e. col. 3 lines 45-67) such as those disclosed in Colby. It would have been obvious for one having ordinary skill in the art to modify Bachmann's disclosed system to incorporate the teachings of Colby. The modification would be obvious because one having ordinary skill in the art

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would be motivated to derive the Qos requirements as necessary by implication based on the contents of individual flows as suggested by Colby.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a runtime engine for deploying said runtime contract (i.e. "The deployment contract...describes the interface that components must implement so that the framework can manage their resources," pg 30 Table 1: first and second rows; "The rules ensure ...that components may be easily deployed into ...runtime environments," pg 28 paragraph 2) as claimed.

Per claim 3:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a messaging requirement contract (i.e. see 5.2.2 Specifying Synchronization," pg 13; "which communication protocol is used," pg 23, Uniform composition) as claimed.

Per claim 4:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a transactionality requirement contract (i.e. "specifying that patterns of interaction are transactional," pg 24 lines 1-2) as claimed.

Per claim 5:

The rejection of claim 1 is incorporated, and further, Bachmann discloses

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a security requirement contract (i.e. "These properties include ... security," pg 12 first paragraph) as claimed.

Per claim 6:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a recoverability requirement contract (i.e. see Interaction schemes in pg 24; pg 12 first paragraph; 5.2.3 Specifying Quality of Service, pg 13) as claimed.

Per claim 7:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a completion requirement contract (i.e. see Interaction schemes in pg 24; pg 12 first paragraph; 5.2.3 Specifying Quality of Service, pg 13) as claimed.

Per claim 8:

The rejection of claim 7 is incorporated, and further, Bachmann discloses a completion requirement contract specifying transactional behavior (i.e. "how qualities of service such as ... transactions are achieved," pg 24 Interaction schemes; "specifying that patterns of interaction are transactional," pg 24 lines 1-2) as claimed.

Per claim 9:

The rejection of claim 7 is incorporated, and further, Bachmann discloses

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a completion requirement contract specifying compensation behavior (i.e. 5.2.3.

Specifying Quality of Service, pg 14 lines 1-5).

Per claim 10:

The rejection of claim 1 is incorporated, and further, Bachmann discloses at least one of a reliability, availability and serviceability requirement contract (i.e. "reliability," in 5.2.3 Specifying Quality of Service, pg 13).

Per claim 11:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a quality of delivery requirement contract (i.e. "These properties include ... availability," pg 12 first paragraph; "quality of service includes attributes such as maximum response delay, average response, and precision," pg 13 5.2.3 Specifying Quality of Service).

Per claim 12:

The rejection of claim 1 is incorporated, and further, Bachmann discloses at least one of a priority requirement and a response goal requirement contract (i.e. see 5.2.3 Specifying Quality of Service in pg 13).

Per claim 13:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a performance requirement contract (i.e. pg 13 5.2.3 Specifying Quality of Service; "These properties include ... performance," pg 12 first paragraph).

Per claim 14:

The rejection of claim 1 is incorporated, and further, Bachmann discloses the quality of service specification is stored in a repository (i.e. "Java Modeling Language," pg 12, 5.2.1 Specifying Behavior).

Per claim 17:

The rejection of claim 1 is incorporated, and further, Bachmann discloses a quality of service specification is stored in a modeling language (i.e. "Java Modeling Language," pg 12, 5.2.1 Specifying Behavior).

Per claims 18-30, 33-46 and 49, they are the method versions of claims 1, 2, 4-14 and 17, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1, 2, 4-14 and 17 above.

5. Claims 15, 16, 31, 32, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bachmann et al. ("Technical Concepts of Component-Based Software Engineering," 5/2000) hereinafter referred to as "Bachmann," in view of Colby et al. (US patent 6,006,264) hereafter Colby as applied to claims 1-14, 17-30, 33-46 and 49 above, and further in view of Koistinen et al. ("Quality of Service Aware Distributed Object Systems," 5/1999) hereinafter referred to as "Koistinen."

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Per claim 16:

The rejection of claim 1 is incorporated, and further, Bachmann does not explicitly teach that the quality of service specification is stored in XML. However, Koistinen teaches that storing a quality of service specification in a tagged markup language such as XML was known in the art of software component-based development and configuration, at the time applicant's invention was made, "so that it can be understood readily by humans and parsed easily (pg 9, Implementation section)" such as that disclosed in Koistinen. It would have been obvious for one skilled in the art of computer software component-based development and configuration to modify Bachmann's disclosed system to use XML. The modification would be obvious because one skilled in the art would be motivated to provide readability and ease parsing as taught by Koistinen (pg 9, Implementation section).

Per claims 32 and 48, they are the method versions of claim 16, respectively, and are rejected for the same reasons set forth in connection with the rejection of claim 16 above.

Per claim 15, this claim is broader version of the claimed system discussed in claim 16 wherein all claim limitations also have been addressed and/or covered in cited areas as set forth the above. XML in claim 16 is a tagged markup language. Therefore, accordingly, see the rejection of claim 16 above.

Per claims 31 and 47, they are the method versions of claim 15, respectively, and are rejected for the same reasons set forth in connection with the rejection of claim 15 above.

Response to Arguments

6. Applicant's arguments filed 7/10/2006 have been fully considered but they are not persuasive.

The Applicant states that:

In Colby's system, the "relationships between flows and system resources are not used to implicitly derive a QoS specification. Rather, system resources are managed to attempt to satisfy previously specified QoS requirements that have been associated with the flows (remark, page 9)."

In response, Colby clearly states that the flow switch implicitly deduces the quality of service requirements of a flow based on the content of the flow (col. 3 lines 45-60). Further, the limitation, "a quality of service specification derivation element having...components, control flows, data flows and resources," is the general concept of QoS that is applied in Bachmann and Colby. Bachmann specifically states a component model specifying "the standards and conventions imposed on developers of components and imposing component types, interaction schemes, resource binding (see 7 Component model and frameworks)." As a "component model describes which resources are available to components, and how and when components bind to these resources (see 7 Component model and frameworks)... the service contract is formed to shift "the focus from specification of components to specification of patterns of interactions, and the mutual obligations of participants in these interactions (see 6.2 two

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senses of contract and component) and a component framework “manages resources shared by components, and provides the underlying mechanisms that enable communication (interaction) among components (7.2 component framework)” supporting or enforcing a component model (see 7 Component model and frameworks). The contractual mutual obligations ensure that independently developed components obey certain rules so that components interact (or can not interact) in predictable ways (page 3 last paragraph). Therefore, Bachmann discloses a quality of service specification derivation element having...components, control flows, data flows and resources and Colby teaches the implicit derivation of QoS. Further, the claims do not recite the specific method of implicitly deriving a QoS. Simply claiming, “derived by implication” without the specific ways of implicit deriving does not differentiate the claims from Colby’s implication. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

I. Kang
Examiner (AU 2193)



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